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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,237	08/29/2001	Denis H. Endisch	H0001273 (4780)	9386

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EXAMINER	
GUERRERO, MARIA F	

ART UNIT	PAPER NUMBER
2822	

DATE MAILED: 04/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/943,237	ENDISCH ET AL.	
	Examiner	Art Unit	
	Maria Guerrero	2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20,24-26,30 and 32-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20,24-26,30 and 32-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Request for continued examination and the Amendment filed February 10, 2005.

Status of Claims

2. Claims 1-19, 21-23, 27-29, and 31 are canceled. Claims 20, 24-26, 30 and 32-36 are pending.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 10, 2005 has been entered.

Claim Objections

4. Claims 20, 24-26, 30, 32-36 are objected to because of the following informalities: claim 20 recites " providing a solvent mixture, wherein the solvent mixture comprises an active solvent component and at least one **non-solvent** component". Appropriate correction is required. An applicant is entitled to be his or her own lexicographer and may rebut the presumption that claim terms are to be given their ordinary and customary meaning by clearly setting forth a definition of the term that is different from its ordinary and customary meaning(s). See In re Paulsen, 30 F.3d 1475, 1480, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994) (inventor may define specific terms used

to describe invention, but must do so "with reasonable clarity, deliberateness, and precision" and, if done, must "set out his uncommon definition in some manner within the patent disclosure' so as to give one of ordinary skill in the art notice of the change" in meaning) (quoting Intellicall, Inc. v. Phonometrics, Inc., 952 F.2d 1384, 1387-88, 21 USPQ2d 1383, 1386 (Fed. Cir. 1992)). Any special meaning assigned to a term "must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention." Multiform Desiccants Inc. v. Medzam Ltd., 133 F.3d 1473, 1477, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998). See also Process Control Corp. v. HydReclaim Corp., 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999) and MPEP § 2173.05(a).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 20, 26, 32, 34, and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Huang et al. (U.S. 6,485,576).

Huang et al. teaches spin-depositing a spin-on compound (comprising silicon) on a surface of a substrate and spin rinsing the spin-on compound with a solvent mixture (Abstract, col. 1, lines 14-16, col. 3, lines 20-45 col. 4, lines 28-50). Huang et al. shows the solvent mixture comprising a first active solvent (IPA, isopropyl alcohol) that dissolves the spin-on compound, and the second solvent that is inert to the spin-on compound (col. 4, lines 28-50). Huang et al. teaches the spin-on compound being SOG (silicate) (Abstract, col. 1, lines 14-20). Huang et al. shows the solvent mixture comprising ethyl lactate (col. 4, lines 30-45).

6. Claims 20, 30, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamashita et al. (US 5,779,928).

Yamashita et al. teaches spin-depositing a spin-on compound (comprising silicon (silicate)) on a surface of a substrate and spin rinsing the spin-on compound with a solvent mixture (Abstract, col. 2, lines 50-67, col. 3, lines 1-5). Yamashita et al. shows the solvent mixture comprising a first active solvent (hydrocarbon) that dissolves the spin-on compound, and the second solvent that is inert to the spin-on compound (Abstract, col. 3, lines 45-48, col. 4, lines 1-32).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 33 and 35 are rejected under 35 U.S.C. 103(a) as being obvious over Huang et al. (U.S. 6,485,576) in view of Yoshida et al. (U.S. 6,534,595).

Huang et al. does not specifically show the mixture comprising the ester such as propyl acetate. However, Yoshida et al. is cited as evidence to show that the selection of the ester (propyl acetate) as a solvent is within the capabilities of a person of ordinary skill in the art (col. 6, lines 49-60).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to recognize that the use of propyl acetate can be incorporated on Huang et al. reference as taught by Yoshida et al. because Huang et al. suggested that other solvent may be used (Huang et al., col. 4, lines 45-50) and this is a industrially available safe solvent (col. 6, lines 49-60).

8. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (U.S. 6,485,576) in view of Kalnitsky et al. (U.S. 5,435,888).

Regarding claims 24-25, Huang et al. does not specifically show the substrate having a trench and the compound being a silicate. However, Kalnitsky et al. shows the substrate having a trench and spin-on deposited into the trench (Fig. 1A-3C, col. 3, lines 58-65, col. 4, lines 1-40).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Huang et al. reference by including the substrate having the trench and spin-on deposited into the trench as taught by Kalnitsky et al. in order to produce interlevel dielectric having high degree of planarization (col. 1, lines 7-15).

Response to Arguments

9. Applicant's arguments filed February 10, 2005 have been fully considered but they are not persuasive. Claims 20, 24-26, 30 and 32-36 stand rejected. Claims rejections in view of Leung et al. (US 6,444,495) have been withdrawn in view of the Declaration filed February 10, 2005. A new ground(s) of rejection have been made to claims 20, 30, and 33 in view of a new reference Yamashita et al. (US 5,779,928).

Applicant argued that Huang does not disclose the active solvent component and the inert component. However, Tsai et al. (US 5,866,481) is presented as evidence to show that the solvent mixture disclosed by Huang comprises the active solvent component and the inert solvent component. Tsai et al. shows that isopropyl alcohol is a well-known active solvent component (col. 3, lines 55-62). Regarding the inert solvent

component Huang discloses the same specific inert solvent component (ethyl lactate) as claimed.

Furthermore, during patent examination, the pending claims must be "given *>their< broadest reasonable interpretation consistent with the specification." > In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). While the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. > In re American Academy of Science Tech Center, F.3d, 2004 WL 1067528 (Fed. Cir. May 13, 2004)(The USPTO uses a different standard for construing claims than that used by district courts; during examination the USPTO must give claims their broadest reasonable interpretation.) < This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) >; Chef America, Inc. v. Lamb-Weston, Inc., 358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tsai et al. (US 5,866,481) and Schulz et al. (US 5,296,330) are pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Guerrero whose telephone number is 571-272-1837.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 22, 2005

María Guerrero

MARIA F. GUERRERO
PRIMARY EXAMINER